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Supporting Information for

Diverse Lithologies and Alteration Events on the Rim of Noachian-Aged Endeavour Crater, Meridiani Planum, Mars: *In-Situ* Compositional Evidence

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Additional Supporting Information (Files uploaded separately)

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Introduction

This supporting information includes details on measurement uncertainties, a listing of targets analyzed, images used in the text, and comparative soil data used to evaluate possible contamination issues for the rock target analyses.

	accuracy ¹	precision ²
	%	%
Na ₂ O	11	5.6
MgO	14	1.1
Al ₂ O ₃	7	1.3
SiO ₂	3	0.5
P ₂ O ₅	15	4.8
SO ₃	15	0.9
Cl	30*	1.5
K ₂ O	15	6.1
CaO	7	0.5
TiO ₂	20	3.6
Cr ₂ O ₃	19	7.1
MnO	8	2.4
FeO	7	0.6
Ni	16	5.7
Zn	16	3.9
Br	20*	7.6

¹from Gellert et al. (2006), Table 1.

²This work, based on Transvaal target measured on Sol 2787; see text.

*Larger uncertainty because of inhomogeneous matrix in calibration samples; see Gellert et al. (2006).

Table S1. Measurement accuracy and typical precision (1 σ).

Table S2. APXS targets discussed and their measurement, lithologic and location details (separate file).

Figure	Sol	Sequence ID (*)	Local True Solar Time	Filters	Band Centers (nm)
3b	3609	p2404 (4)	14:24:59	L2, L5, L7	753, 535, 432
3c	3750	p2373 (2)	13:24:03	L2, L5, L7	753, 535, 432
4a	3000	p2143	12:32:13	L4, L5, L6	601, 535, 482
4b	3734	p2561	13:56:19	L2, L5, L7	753, 535, 432
4c	3425	p2562	13:45:52	L2, L5, L7	753, 535, 432
4d	2769	p2574	12:47:18	L2, L5, L7	753, 535, 432
4e	3426	p2433 (2)	14:18:53	L2, L5, L7	753, 535, 432
6a	3203	p2554	11:51:37	L2, L5, L7	753, 535, 432
6b	3062	p2407 (5)	11:52:37	L2, L5, L7	753, 535, 432
8a	3156	p2437	11:58:53	L2, L5, L7	753, 535, 432
8b	2786	p2582	12:30:23	L2, L4, L6	753, 601, 482
8c	3466	p2578	12:25:49	L2, L5, L7	753, 535, 432
8d, 22a	3669	p2587	13:20:29	L2, L5, L7	753, 535, 432
8e	3676	p2589	14:45:02	L2, L5, L7	753, 535, 432
8f	3868	p2554	13:42:30	L2, L5, L7	753, 535, 432
10a	3391	p2548	13:15:50	L2, L5, L7	753, 535, 432
10b	3601	p2548	12:43:10	L2, L5, L7	753, 535, 432
10c	3793	p2586	14:00:11	L2, L5, L7	753, 535, 432
10d	3814	p2532	15:18:59	L2, L5, L7	753, 535, 432
20b	2803	p2590 (3)	14:03:33	L2, L5, L7	753, 535, 432

(*) If the observation is part of a mosaic, the number of frames taken is indicated.

Table S3. List of Panoramic Camera images used and details of the observations.

Table S4. Measurement uncertainties (2σ precision; see text) on APXS analyses of Endeavour Crater rim rocks (separate file).

Table S5. Compositions of dark-sand and bright-soil targets used for comparisons (separate file).